

WHAT IS CLAIMED IS:

1. A fine particle structure comprising a fine particle accumulated layer having fine particles arranged and accumulated, having provided thereon a layer comprising a molecule having a size larger than gaps among the fine particles.

2. A fine particle structure as claimed in claim 1, wherein the fine particle accumulated layer is a photonic crystal layer comprising the fine particles regularly arranged, having coated thereon a polymer substance having a length or a size larger than the gaps among the fine particles.

3. A fine particle structure as claimed in claim 2, wherein the fine particles have a uniform size and are regularly arranged to form the photonic crystal layer.

4. A fine particle structure as claimed in claim 1, wherein the size of the gaps is

[equation 1]

$$2(\sqrt{2}-1)R$$

wherein R represents a radius of the fine particles.

5. A fine particle structure as claimed in claim 1, wherein the size of the gaps is $2R$, wherein R represents a radius of the fine particles.

6. A fine particle structure as claimed in claim 2, wherein the polymer substance comprises a chain polymer, a linear polymer or a helix polymer, and the length or the size

is a length in a major length direction of the polymer substance.

7. A fine particle structure as claimed in claim 2, wherein the polymer substance comprises a chain polymer, a linear polymer or a helix polymer, and the length or the size is a length in a minor length direction of the polymer substance.

8. A fine particle structure as claimed in claim 2, wherein the polymer substance is in a coil form, and the length or the size is a length in a longitudinal direction of the coil.

9. A fine particle structure as claimed in claim 2, wherein the polymer substance is in a coil form, and the length or the size is a length in a lateral direction of the coil.

10. A fine particle structure as claimed in claim 2, wherein the polymer substance comprises a network polymer or a gel polymer, and the length or the size is a size of the network in a spreading direction.

11. A fine particle structure as claimed in claim 2, wherein the polymer substance comprises gelatin.

12. An optical medium comprising a fine particle structure comprising a fine particle accumulated layer having fine particles arranged and accumulated, having provided thereon a layer comprising a molecule having a size larger than gaps among the fine particles.

13. An optical medium as claimed in claim 12, wherein

the fine particle structure is a fine particle structure as claimed in one of claims 2 to 11.

14. An optical medium as claimed in claim 12, wherein the molecular layer is provided as a protective film of a reflective type screen.

15. An optical medium as claimed in claim 12, wherein the molecular layer is provided between a light diffusing layer and the fine particle accumulated layer as a photonic crystal layer of a reflective type screen, and no air layer intervenes among them.

16. An optical medium as claimed in claim 12, wherein the optical medium is constituted as a light functional element.

17. An optical medium as claimed in claim 16, wherein the molecular layer is formed as a protective film.

18. An optical medium as claimed in claim 16, wherein the molecular layer is formed as a waveguide.